

AMENDMENT TO THE DRAWINGS

Attached here is a "New Drawing Sheet" Fig. 9.

REMARKS

Reconsideration of the application is respectfully requested.

Addressing first the formalities, this amendment includes a new drawing sheet labeled “**Fig. 9**” which exactly tracks corresponding textual descriptions associated with **Fig. 9**, in the Detailed Description of the Specification as filed. Almost all of the elements mentioned in the text of the Detailed Description as belonging to **Fig. 9** have been shown by a simple box with its associated label and reference number, and couplings have been indicated by a simple line segment between boxes. Corrections have also been made to the text where appropriate, including deleting those reference numbers that have been chosen not to be explicitly shown in **Fig. 9**, for the sake of brevity. Every effort has been made to make the new drawing correspond exactly to the textual description such that no new matter has been added. Approval of the additional drawing sheet is respectfully requested.

Applicants also thank the Examiner for a careful read of the Specification and have made the corrections suggested by the Examiner.

Turning now to the art rejections, claims 1-14 and 21-26 stand rejected as being anticipated by U.S. Patent No. 6,735,200 issued to Novaes (“Novaes”). Applicants respectfully disagree with the rejection for the reasons given below, however, claim 1 has been amended to more particularly point out another embodiment of the invention that is neither anticipated nor obvious in view of Novaes. Claim 1, as amended, recites a method in which a set of subnets are discovered, where the subnets have visibility of a transmission. In one embodiment, this transmission is a multicast transmission. A network element in one of the subnets is selected, to perform a transmission. This transmission will include a transmission job identifier that is sent to the network element, in addition to the address of the network element’s subnet. An indication is received from the network element that it is aware of an alias domain representative

being in another one of the set of subnets. An alias domain includes two or more subnets that are treated as having the same subnet address. See for example, Table 2 of the Specification as filed, which is established by a server following an automated discovery process. For example, alias domain A has the subnet address of subnet A, but also includes subnets B and C. Alias domain D has the subnet address of subnet D, but also includes subnets E and F. Novaes does not teach or suggest such a method.

In Novaes, the availability of nodes in a communications network is monitored. The problems associated with multicast routing are discussed. Novaes describes a solution in which a subnet leader gathers verification messages sent from each node of its subnet, and assembles them into a subnetwork list. This list is then sent to a network leader node. The network leader assembles each subnet list that has been received, into a master list. This master list is then sent out to the subnetwork leaders. In turn, the subnetwork leader in each subnet multicasts the master list out to each of its nodes. However, Novaes does not teach or suggest *discovering a set of subnets that have visibility of a transmission*.

In Novaes, the network leader sends the master list out to the subnetwork leaders in **separate** transmissions. There is no single transmission that is visible to all of the subnets. As an example, this single transmission may be a multicast transmission (Applicants' claim 2).

Although the Office Action refers to Novaes' sending a master list to subnet leaders as teaching the claimed *discovery of subnets having visibility of a transmission*, Applicants respectfully disagree because the network leader in Novaes sends the master list back to the subnetwork leaders **over point-to-point links**. [Novaes, column 13, lines 54-56] Thus, the subnets in Novaes cannot be said to *have visibility of a transmission*. The content of the message, namely the master list, must be distinguished from its transmission. Although the master list is sent by the network leader to the different subnet leaders, the message is sent via different, multiple transmissions (point-to-point links). This does not teach or suggest that the subnets have visibility of the

same transmission. As mentioned above, this transmission may be a *multicast transmission* as provided in Applicants' claim 2. There is no teaching or suggestion to modify Novaes so that each subnetwork 310, 320, and 330 has visibility of the same transmission.

Claim 1 has also been amended for reasons other than to overcome any statutory-based problems, to refer to an embodiment of the invention that is fully supported in the Specification as filed, for example, at paragraph [00023] and Fig. 2. Accordingly, no new matter has been added. Claim 1 as amended, sets forth a method of discovering an alias domain that includes a set of subnets, where the method advantageously helps avoid the need for an administrator to manually define or configure a subnet as an alias of another. The recited operations in claim 1 automatically determine the correct aliases for each subnet. Novaes does not teach or suggest such a method.

Now turning to claim 6, this claim has been amended to more clearly describe how a set of subnets are dynamically established as an alias domain. A discovery message is automatically sent to a subnet rep of each subnet, and then a response from the subnet rep is evaluated. Where the response indicates that the sender's subnet has an alias (the sender is aware of an alias), the sender's subnet is assigned to the alias domain that is indicated by the response. Where the response indicates that the sender's subnet has no alias (the sender is not aware of an alias), then the sender's subnet address is stored as an alias domain. A network element that is in the established alias domain is selected, to transmit data to the domain (*e.g.*, via a multicast transmission). A status of transmission of the data is maintained (where this status has been received from the network element). Novaes does not teach or suggest establishing subnets as an alias domain where each of the subnets is assigned the same subnet address, by an automatic process. Support for the amended language in claim 6 can be found in the Specification as filed, for example, at paragraphs [00018] – [00022]. Accordingly, no new matter has been added.

As to claim 11, Applicants also respectfully disagree that this claim is anticipated by Novaes, because Novaes does not teach or suggest creating a number of alias domains in a network. An alias domain refers to a number of subnets that are assigned or treated as having the same subnet address. The Office Action refers to column 6, lines 40-43 and column 12, lines 33-60 as teaching this limitation. However, the former only defines the terms “master list” and “multicast group”. A master list is defined as a list of heartbeat messages sent by each subnetwork leader of each subnetwork, and assembled by a network leader, while a multicast group refers to a group of one or more nodes that subscribe to a certain set of messages. Neither of those terms refers to an alias domain.

Claim 11 has also been amended for reasons other than to distinguish the relied upon art references, without introducing any new matter.

In claim 15, a server is to automatically establish an alias domain from a first and second subnet. The server is to select a representative for the domain and delegate a multicast transmission of data to the representative. A network element connected to the server is selected as the representative, which also maintains a status of the transmission. A second network element connected to the server and the first network element, is to forward multicast traffic between the first and second subnet. This claim stands rejected as being anticipated by U.S. Patent No. 6,189,039 issued to Harvey, et al. (“Harvey”). Applicants respectfully disagree with the rejection for the following reasons.

Although Harvey refers to a multicast area, it does not teach or suggest that a server dynamically establish a domain from a first and second subnet. This has been clarified in Applicants’ claim 15, which now refers to the server as automatically establishing an alias domain from the subnets (where the alias domain encompasses the first and second subnet as being assigned or treated as having the same subnet address). In addition, the server delegates a multicast transmission of data to the first network element (which has been selected as the domain representative). This network

element is to transmit the data to a set of targets in the domain and to maintain the status of the multicast transmission. Also, note that there is a second network element that forwards multicast traffic between the first and second subnets. Thus, the multicast transmission of the data by the first network element in one of the subnets reaches a target in the other subnet as part of multicast traffic which is forwarded. Neither Harvey or Novaes teach or suggest such a system.

Next, turning to claim 21, this claim stands rejected as being anticipated by Novaes. Applicants respectfully disagree because Novaes does not teach or suggest determining a set of subnets to receive data and dynamically establishing the subnets as a domain, and selecting a representative for the domain. To clarify, Applicants' claim 21 has been amended without introducing any new matter. The determined set of subnets have visibility of a multicast transmission. In addition, a set of subnets are established as an alias domain. This is done by sending to a representative in each subnet a message that includes a multicast job identifier, and receiving a response that indicates whether or not the identifier has been previously received by the representative. In Novaes, the network leader sends the master list out to the subnetwork leaders in **separate** transmissions. There is no single transmission that is visible to all of the subnets. As an example, this single transmission may be a multicast transmission. Novaes does not teach or suggest modifying its network so that each subnetwork 310, 320 and 330 has visibility of the same transmission.

Turning now to claim 27, this claim stands rejected as being anticipated by Harvey, where the Office Action at page 9 points to, column 1, lines 23-27, and column 5, lines 40-49 as allegedly teaching the limitation *if the machine is in the domain for the transmission job, then transmitting the second message indicating the domain* (analogized to registering with the network of Harvey). Applicants respectfully disagree with this analogy.

Taking claim 27 as a whole, the machine performs the operations of receiving an indication of a transmission job and determining if the machine is in a domain for the

transmission job. If the machine is not in the domain, then a message is transmitted indicating the machine's subnet. However, if the machine is in the domain, the message indicates the domain. In other words, the content of the transmitted, message is different depending upon whether the machine is in the domain for the transmission job, or not. Harvey does not teach or suggest such operations.

In Harvey, if the receiver utility routine determines that IP multicast is available within the particular network segment on which the client is running, then the receiver is configured to receive the IP multicast (*e.g.*, opening an IP multicast socket connection which is then broadcast over the network). [Harvey, column 5, lines 40-44]

On the other hand, if the receiver utility determines that IP multicast is not available, then the receiver undertakes some other method of obtaining the data stream (in that case, configures a request that the data stream be provided via an alternative protocol such as IP unicast). The request is transmitted over the network and it is picked up by the tunneler associated with the server.

The above described capabilities in Harvey do not teach or suggest, for example, that the receiver utility is to transmit a message to the server that indicates either the machine's subnet or the domain for the transmission job (depending on whether the machine is or is not in the domain). Claim 27 has also been amended here to clarify the interaction between the machine and the server. Such interaction is not taught or suggested by Harvey.

Any dependent claims not mentioned above are submitted as not being anticipated or obvious, for at least the same reasons given above in support of their base claims.

CONCLUSION

In sum, a good faith attempt has been made to explain why the rejection of the claims is improper, and how the claims are believed to be in condition for allowance. A Notice of Allowance referring to claims 1-30, as amended here, is therefore respectfully requested to issue at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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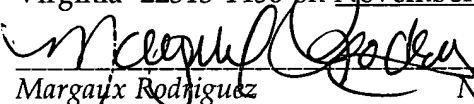
Dated: November 3, 2005

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, Post Office Box 1450, Alexandria, Virginia 22313-1450 on November 3, 2005.


Margaux Rodriguez November 3, 2005